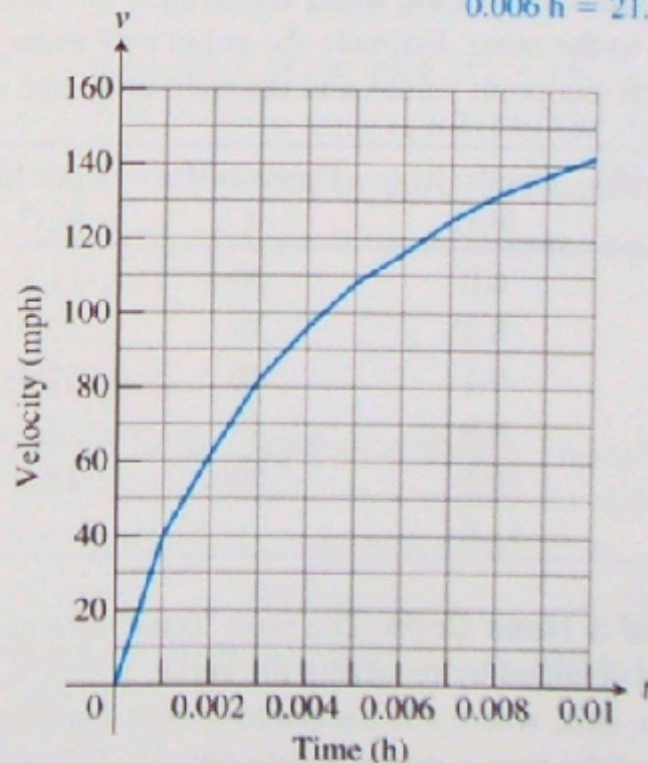


Time (h)	Velocity (mi/h)	Time (h)	Velocity (mi/h)
0.0	0	0.006	116
0.001	40	0.007	125
0.002	62	0.008	132
0.003	82	0.009	137
0.004	96	0.010	142
0.005	108		

(a) Use rectangles to estimate how far the car traveled during the 36 sec it took to reach 142 mi/h. 0.969 mi

(b) Roughly how many seconds did it take the car to reach the halfway point? About how fast was the car going then?

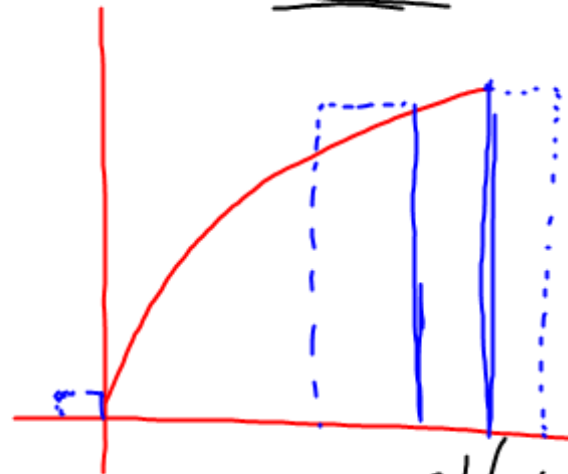
0.006 h = 21.6 sec; 116 mph



LRAM - All but last

RRAM - All but first

$$\text{LRAM} = 0.001 (0 + 40 + 62 + \dots + 137) \\ \approx \underline{\underline{0.898}}$$



$$\text{RRAM} = 0.001 (40 + 62 + 82 + \dots + 142) \\ \approx \underline{\underline{1.040}}$$

$$\text{avg} \approx 0.969$$

$$S_n = \sum_{k=1}^n \underbrace{f(c_k)}_{\text{height}} \cdot \underbrace{\Delta x_k}_{\text{base}}$$

where you end, the number of partitions

↓
Sum

1st
rect.

EXAMPLE 1 Using the Notation

The interval $[-1, 3]$ is partitioned into n subintervals of equal length $\Delta x = 4/n$. Let m_k denote the midpoint of the k^{th} subinterval. Express the limit

$$\lim_{n \rightarrow \infty} \sum_{k=1}^n (3(m_k)^2 - 2m_k + 5) \Delta x$$

as an integral.

$$\int_{-1}^3 (3x^2 - 2x + 5) dx$$

5.2
HW Quick Review #1-7, Problems #1-6, Read rest of section